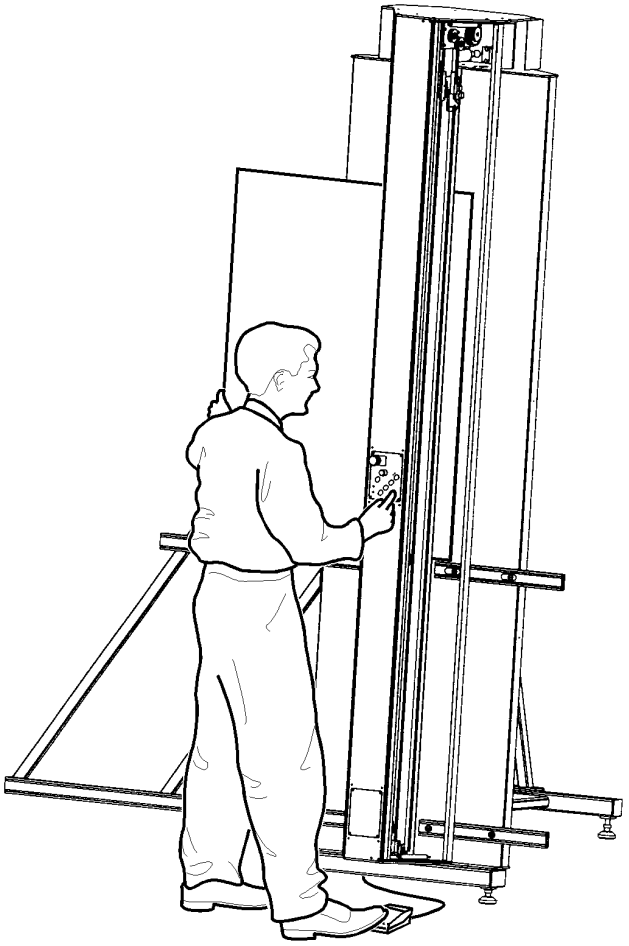
Seal



Medium Duty Cutter / X-ACTO

USER MANUAL

SEAL™

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1. INTRODUCTION

1.1 Applicability

This is the user manual for the Medium Duty Cutter / X-ACTO.

This manual contains important information for the correct installation, operation and maintenance of the machine.

You are recommended to study the manual carefully before using the machine and to familiarise yourself thoroughly with the operating principles and operation of the machine. Follow the instructions to the letter.

Please do not hesitate to contact your supplier should you have any questions or require further information relating to any aspect of the machine.

1.2 Liability

We reserve the right to modify the construction or design of our products, which will not give rise to any obligation on our part to modify products supplied prior to the modification.

1.3 Warranty

The warranty conditions listed in our terms of delivery, which have been sent to you, apply to this product. The warranty covering your equipment will become completely void if:

- Servicing and maintenance are not carried out completely in accordance with the instructions.
- If repairs are not carried out by our staff, or have been undertaken without our prior permission in writing.
- The equipment has been modified without our prior written permission.
- Parts other than the original parts are used.
- The equipment has been used injudiciously, improperly, carelessly or not in accordance with the nature or the intended purpose of the equipment.

Parts subject to wear and tear are not covered by the warranty.

1.4 Delivery

Upon arrival the machine must be checked for:

- Damaged and/or missing parts caused by transport. Make sure that the carrier compiles a damage report on the spot.
- Correctness and completeness; are all (additional) parts ordered delivered?

Always contact your supplier in case of damage!

2. SAFETY

2.1 General

The equipment is provided with safety and protection features. You should nevertheless proceed with caution when operating the machine.

Hunt Graphics has done everything possible to inform you as accurately and comprehensively as possible of any hazards relating to the operation of the machine.

Warning:
You should ensure that these rules of conduct are observed.
You are obliged to make these instructions known to operational and maintenance staff.

2.2 Working with the machine

This electrically driven machine has the following protection devices to ensure operator safety:

- A safety cover. The right half can be folded up to change the blade holders or to remove any material trims.
- A safety switch. A safety switch is operated when the right-hand cover is opened. This switch ensures that any movement of the cutting carriage is halted or, if the cutting carriage was at a standstill, to ensure that the latter cannot be set in motion. If the machine is halted by opening the cover, it can only continue an operation after the cover has been closed and after the last command has been re-issued.
- An automatic protection against overloading the drive. The protection device engages after an attempt to cut material which cannot be cut on the machine, or if the blade becomes jammed in the material: the motor voltage cuts out, the overload light on the control panel comes on and the machine no longer responds to any command. The machine operator is now in a position to trace the cause of the machine's seizing. The machine cannot be used until it has been switched off and on again, using the mains switch at the back of the machine.
- Emergency stop. By pressing the emergency stop button, movement of the cutting carriage will be stopped at once, irrespective of the direction or speed of the carriage. If depressed at the time, the clamping bar will be released. If the emergency stop button is depressed during a cutting cycle, cutting will be interrupted: the cutting carriage is halted and the clamping bar is released. With the emergency stop button depressed, the machine will not respond to any command. By pulling out the emergency stop button, all machine functions will once again be available.

A hint for safe(r) operation of the machine:

- Always be cautious when changing the blades or when removing or inserting the blade holders.

2.3 Symbols used in this manual

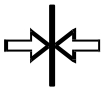
Warning:
The purpose of this sign is to alert you to any potentially life-threatening situations.

Attention:
The purpose of this sign is to alert you to any situations that may cause damage to the machine or material.

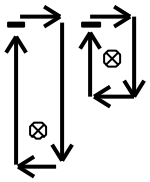
2.4 Symbols on the equipment

On the control panel:

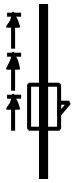
Machine on / mains voltage available



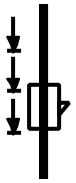
Clamping force (0 = no clamping, 10 = maximum clamping force)



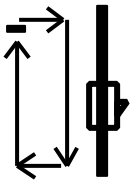
End of blade carriage cutting movement
left = lower supporting section
right = upper supporting section



Memory status: blade carrier higher



Memory status: blade carrier lower

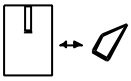


Starting the cutting movement

Cutting speed:
Turtle = lower
Hare = higher

For later models:

Cutting speed



Blade carriage to blade changing position

Motor overloaded

On other machine parts:

General warning: Read the text and follow the instruction.

3. MACHINE DESCRIPTION

3.1 Type description

The Medium Duty Cutter is a multi-functional, electrically driven cutter, which is suited for average frequency of use.
The cutting technique used by the MDC ensures a clean cutting process without dust or vapour. Although meant to be used vertically, MDC machines can also be deployed in a horizontal position.

Features of the MDC include:

- Designed to cut large panels and/or large sheets accurately and fast, for instance wide format output, affixed photographs, etc.
- Maximum cutting length 2.55 m (100 inches).
- Programmable cutting length for repeatedly cutting small formats.
- Simple and safe changing of blades and blade holder.

Cutting results depend on:

- The cutting speed applied.
- The clamping force exerted.
- Accurate positioning of the supporting sections at right angles.
- The type of material.

A stop is fitted to the ruler on the machine.

3.2 Identification

An identification plate has been attached to the machine. The plate is situated at the back of the machine, at bottom right.. See Figure 1.

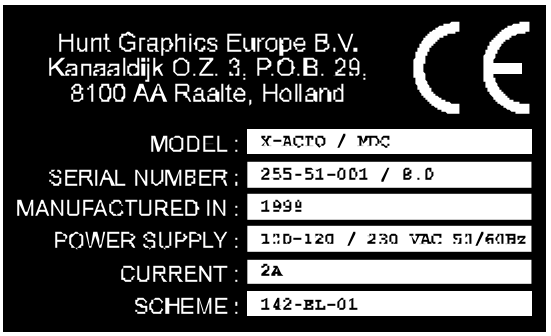


Figure 1

3.3 Technical specifications

Description:	**Specification:**	
dimensions: packaging, incl. pallet (L x W x H)	3350 x 1130 x 820 mm	131.8 x 44.5 x 32.3 inches
horizontal arrangement (L x W x H)	2912 x 2130 x 1106 mm	114.6 x 83.8 x 43.5 inches
vertical arrangement (L x W x H)	1100 x 2130 x 3000 mm	43.3 x 83.8 x 118.1 inches
Weight: packaged	310 kg	684 lbs.
without supporting sections, base, subframes and braces	194 kg	428 lbs
horizontal arrangement, complete	260 kg	573 lbs
vertical arrangement, complete	237 kg	523 lbs
mains voltage	100-120 / 230V, 2 / 1A, 50/60Hz	
noise level	less than 70 dB(A)	
maximum cutting length	255 cm	100 inches
maximum board thickness	13 mm	0.5 inches
cutting speed	0-0.5 m/sec	0-19.7 inches/sec
clamping force	800-1500 N	176-331 lbf
safety inspections	EN 60950	

The dimensions of the machine and the space required are described in detail in chapter 5 "Installation".

3.4 Components

The main components of the machine are shown in figures 2 and 3.

1. Control panel
2. Alternative control panel position (with horizontal arrangement)
3. Supporting sections
4. Control cabinet
5. Main switch
6. Support
7. Blade carriage
8. Foot switch

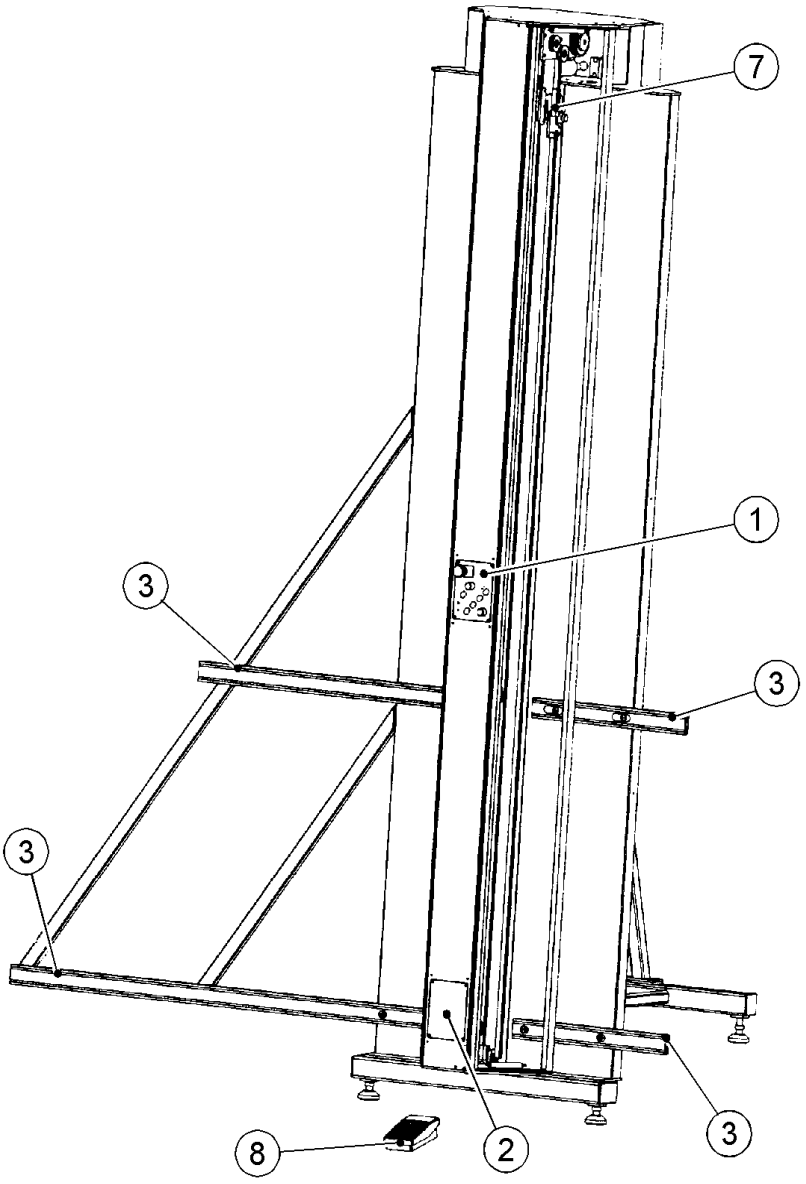


Figure 2

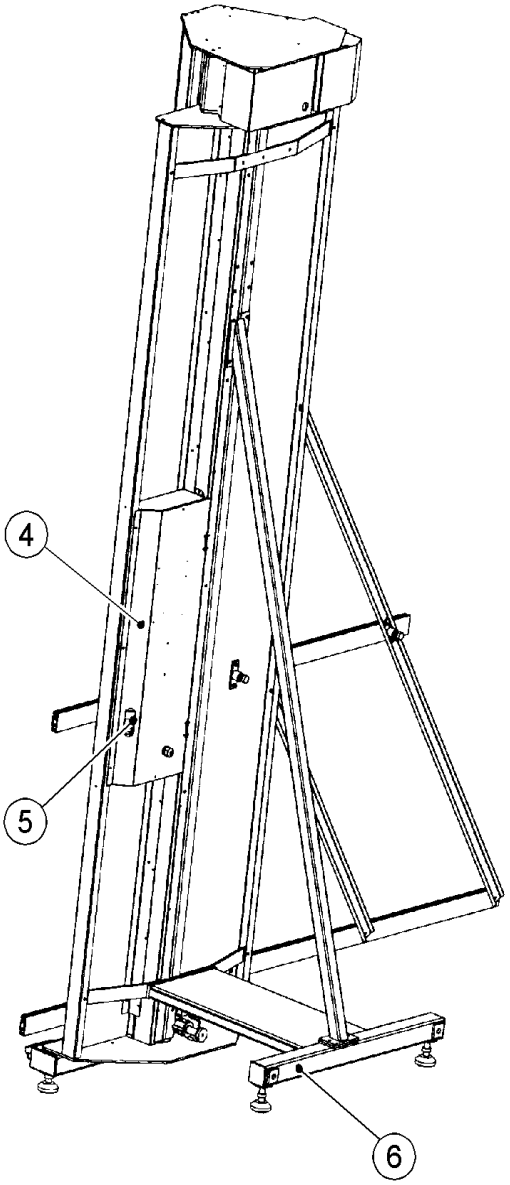


Figure 3

4. TRANSPORT

4.1 General

Take into account the weight of the machine when moving it.

Only lifting gear that can safely cope with this weight should be used for lifting the machine, e.g. a lift truck.

The machine is transported on a wooden pallet. The machine is wrapped in synthetic foil to protect it from moisture.

Remove the packaging as described in the chapter on "Installation".

4.2 Moving

4.2.1 Machine in transport packaging

Move the packaged machine as indicated in Figure Figure 4.

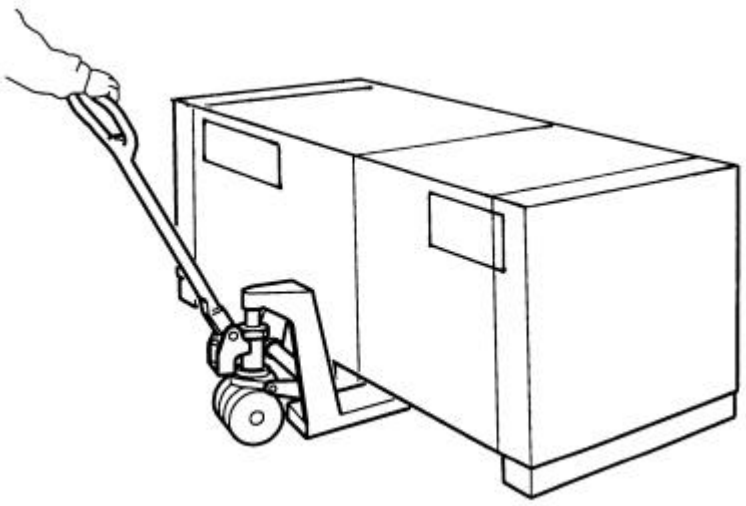


Figure 4

4.2.2 Vertically installed machine

Install the machine where it will be used.

Warning
When the machine is lifted or moved, there is a very high risk of tilting and getting out of control.

Figure 5

4.2.3 Horizontally installed machine

A horizontally installed machine can be moved by placing a pallet truck under both horizontal box girders of the subframes (legs).

5. INSTALLATION

5.1 General

Installation work must only be carried out by qualified staff.

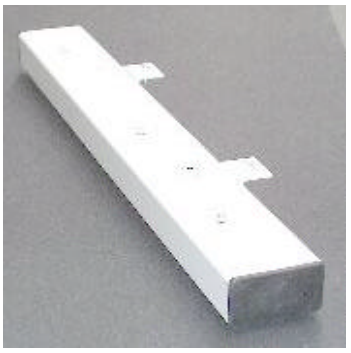
You should ensure that sufficient space is available before installing the machine, not only for the machine itself, but also for inserting the boards to be cut.

Machine installation requires floor space of at least 395 x 140 cm in case of a vertically installed MDC and 395 x 330 cm in case of a horizontally installed MDC.

5.2 Standard equipment

Please check that the following components are present when the cardboard packaging has been removed:

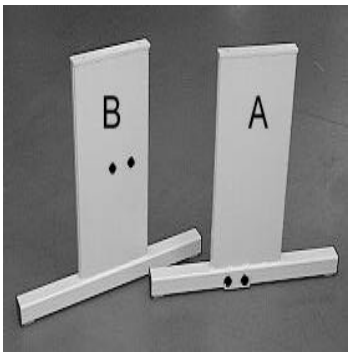
1. 1x central clamping/cutting unit
2. 1x base (for vertical arrangement)



3. 2x subframe

   A. With threaded holes in box girders for horizontal and vertical arrangement.

   B. With threaded holes in the plate for horizontal arrangement.



4. 1x long brace

5. 1x short brace

6. 4x adjustable foot

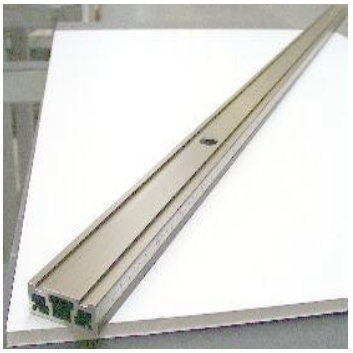
7. 1x gas spring (extra for horizontal arrangement)

8. 1x (short) supporting section, centre right

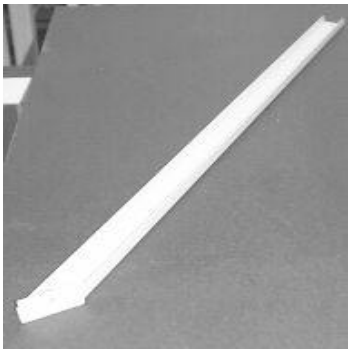
9. 1x (short) supporting section, bottom right

10. 1x supporting section, centre left (long)

11. 1x supporting section, bottom left (long)

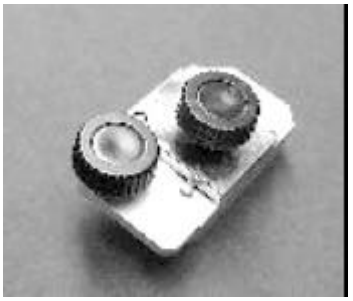


12. 1x short brace of supporting section



13. 1x long brace of supporting section

14. 1x blade holder



15. 1x groove tool holder + groove tool

16. 25x portioning blade

17. 1x 1x mains lead (USA) or 1x European and 1x UK

18. 1x machine user guide

19. 1x stop

Mounting material:

20. 1x set of socket head screws, rings and nuts
21. 5x tie-wraps

Auxiliary mounting material:

22. 1x set of socket wrenches
23. 1x set of open-ended spanners
24. 1x gauge for squaring the supporting sections

5.3 Installation (vertical arrangement)

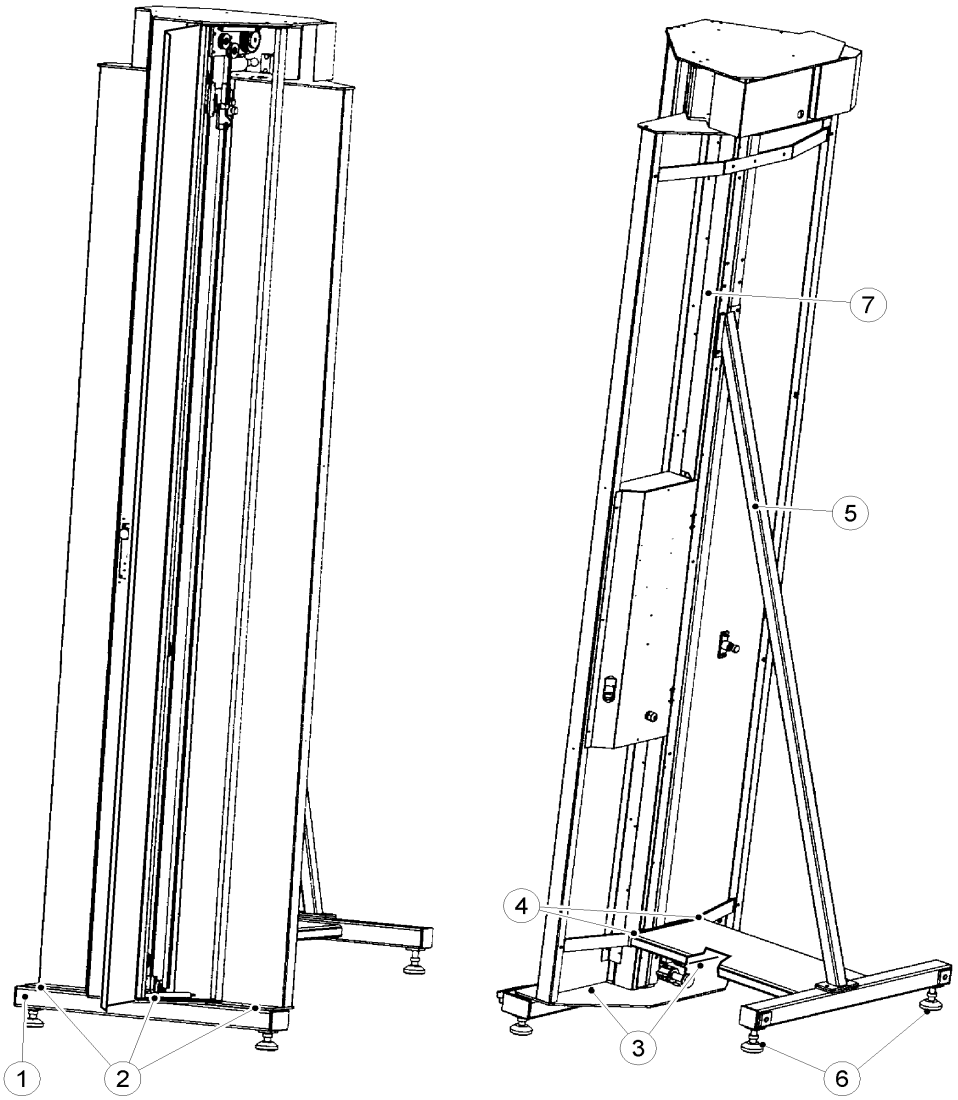
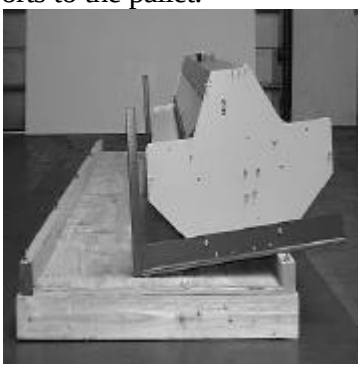


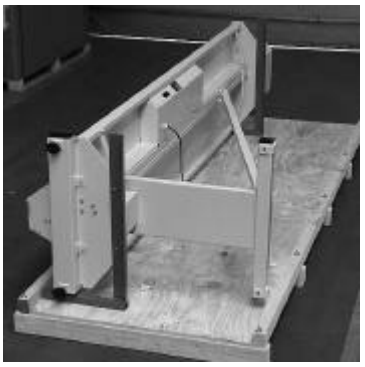
Figure 6

General preparations (for both horizontal and vertical arrangement)

1. Remove the transport packaging and the protective foil.
2. Remove the four M8 transport bolts for securing the supports to the pallet.
3. Move the machine to the right on the pallet and place the machine with transport bracket on the right-hand girder, so that the machine can be tilted 90°.



4. Tilt the machine on the pallet and mount the parts supplied separately (vertical or horizontal).



Vertical arrangement (see fig. 6)

5. Fit the base (1) to the cutting table, using the two M8 bolts (3) and the three M6 bolts (2). Open the guard to fit the 3rd bolt. Screw the adjustable feet into the base.
6. Fix the subframe (3) (without threaded holes in the plate) to the lower mounting bracket (4), using 2 M8 socket head screws.
7. Fit the long brace (5) between the subframe (with 2 M8 bolts) and the table (M8 bolts have already been fitted, just tighten M8 nuts (4x)).
8. Now tilt the machine off the pallet.

Attention:
The back of the machine may touch the floor. Use protective material.

9. Dismount the transport brackets.
10. Now the machine is off the pallet and it can be arranged vertically by having 4-6 persons lift the machine at the back.
11. When the machine is vertical, the 2 adjusting feet (6) can be fitted by slightly tilting the machine forwards.
12. The machine can now be cautiously moved with a pallet truck.

13. Use some packing wood to obtain the required space between the floor and the machine. Place this wood underneath the adjusting feet.

Attention:
The machine is top-heavy.
Move with extreme caution.

14. Fit the 4 supporting sections once the machine is in place (see para. 5.5).

5.4 Installation (horizontal arrangement)

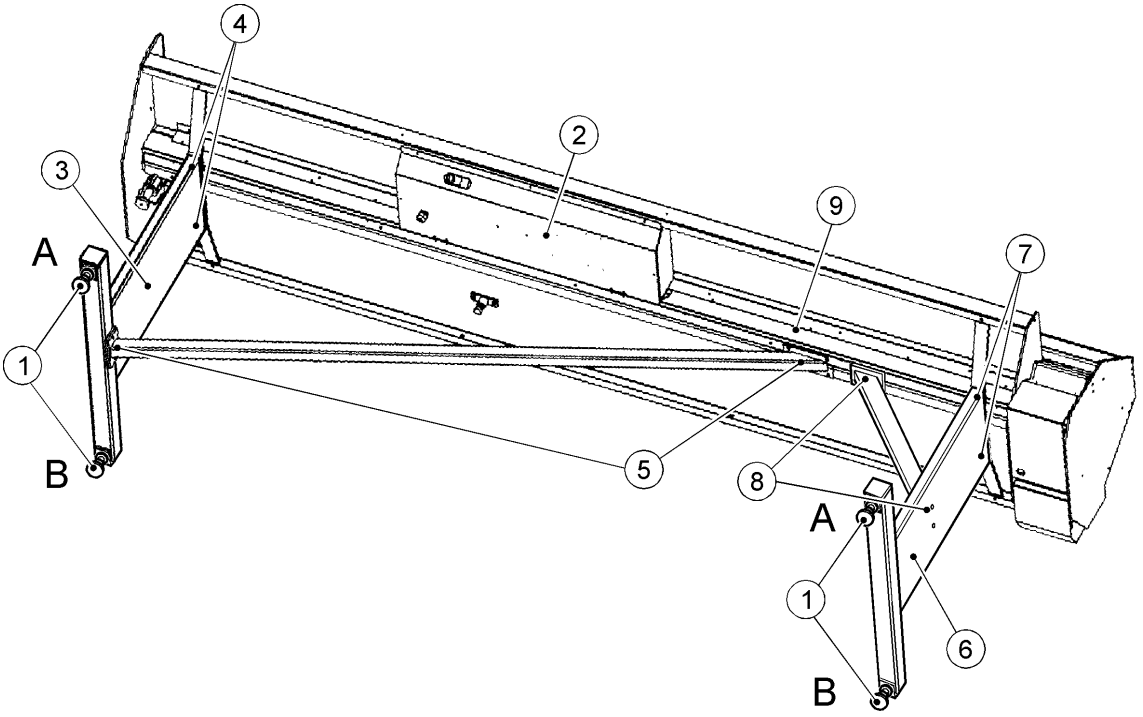


Figure 7

1. The machine has already been unpacked in accordance with the procedure set out in para. 5.3.
2. Fix the subframe (3) to the left-hand mounting bracket, using 2 M8 bolts.
3. Fit the long brace (5) between the subframe (3) (with 2 M8 bolts) and the table. The 4 M8 bolts have already been fitted in the frame girders. Just secure the brace with 4 M8 nuts.
4. Fix the subframe (6) with mounting holes in the plate to the mounting bracket, using 2 M8 bolts (7).

5. Fit the short brace (8) between the frame girders (with 4 M8 bolts) and the subframe (6) (2 M8 bolts).
6. Place just the upper adjusting foot in both subframes (1A).
7. Have 4-5 men tilt the machine onto its base and mount the remaining adjusting feet. Adjust the feet.
8. Dismount the transport brackets.
9. Open the guard and mount the supplied gas spring on the right-hand side of the machine.
10. Fit the gas spring as indicated in Fig. 8!
11. Now fit the supporting sections (see para. 5.5).

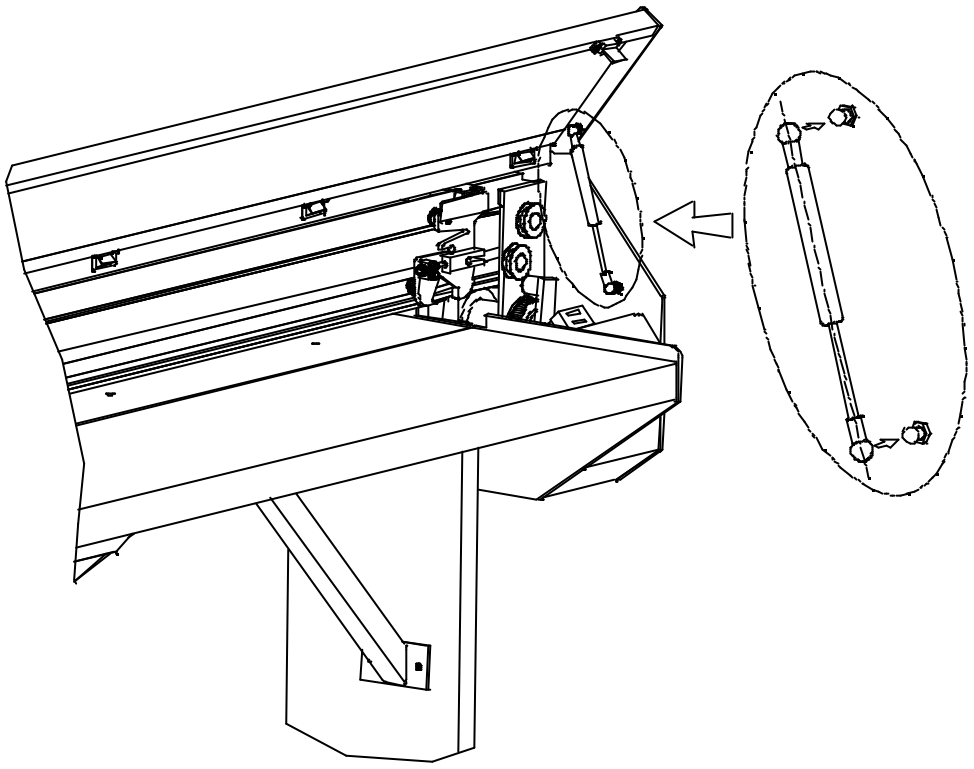


Figure 8

5.5 Installation (supporting sections)

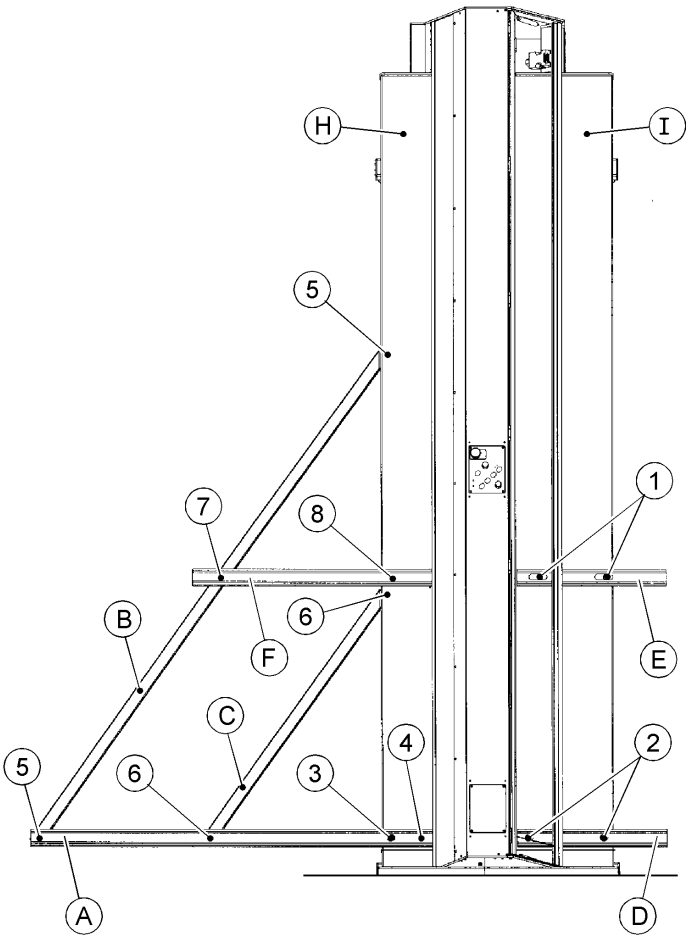


Figure 9

Remove the packaging from the supporting sections and fit them as shown and specified in the diagram and descriptions below (see Figure 9):

A. long supporting section, bottom left (1 eccentric)

B. long brace of supporting section

C. short brace of supporting section

D. short supporting section, bottom right (2 eccentrics)

E. short supporting section, top right (2 snap connections)

F. short supporting section, left-hand side

G. Check the supporting sections for squareness as set out in para. 7.6.

The following components are also shown in Figure 9

H Infeed plate

I Outfeed plate

5.5.1 Supporting section, bottom left

1. Fit the supporting section (A) to the table (seeFigure 9). Start with socket head screw (4).
2. Align the top of the supporting section with the existing stop fitted underneath the clamping bar on the table. Do not turn the M6x16 bolt completely home!
3. Place an eccentric (3) in the supporting section (A).
4. From the front, turn the socket head screw in the supporting section and the eccentric (3). Do not turn them completely home.
5. Now square the supporting section, using the gauge included in the supply. Repeat step 2, if necessary.
6. Fit the long supporting section brace (B) and the short supporting section brace (C), using 2 socket head screws (5 and 6) for each.
7. Check supporting section (A) for squareness and tighten the socket head screws.

5.5.2 Supporting section, bottom right

1. Place the eccentrics (2) in the supporting section (D).
2. Position the supporting section on the mounting holes and slide the supporting section to the left, so that the spacer touches the table.
3. Screw the socket head screws into the eccentric from the front. Do not turn them completely home.
4. Using the gauge, align the supporting section (D) with the supporting section (A) already fitted and the fixed stop.

5.5.3 Supporting section, top right

1. Position the supporting section (E) on the mounting holes (1).
2. Press the pins (1) home. The supporting section is then automatically secured..

Note:
This supporting section has been squared with the locating strip in the factory and snaps exactly into position thanks to the snap connection.

5.5.4 Supporting section, top left

1. Slide the supporting section under the guard on the mounting holes (7, 8) and turn the knurled knob just home from the rear.
2. Place the gauge on supporting section E and partly over supporting section F.
3. Slightly loosen the knurled knobs (securing the snap connection).
   Now align supporting section (F) with supporting section (E), using the gauge.

4. Tighten the knurled knobs of the snap connection.

Check the supporting sections for squareness as set out in para. 7.6.

5.6 Electrical connection

Attention:
Always first check that the mains entry indicates the proper voltage setting!

If your mains voltage is between 99V and 132V, set the voltage to 115V
If your mains voltage is between 207V and 253V, set the voltage to 230V

Attention:
The mains voltage setting is shown in the window of the fuse holder.

Attention:
The machine is supplied with fuses for the correct voltage. Select the correct fuse for the correct voltage.

This is 1A for 230V. This is 2A for 115V.

5.6.1 Adjusting the mains voltage setting

The correct mains voltage can be set with the fuse holder in the upper mains voltage input:

1. Put a small screw driver in the opening between fuse holder and switch button as indicated in Figure 10.
2. Raise the fuse holder somewhat and remove the fuse holder from the mains voltage input.
3. Remove the socket from the fuse holder and put it back. Make sure that the required mains voltage appears in the fuse holder window.
4. Now insert the two fuses of the correct type in the holder and put the holder back.

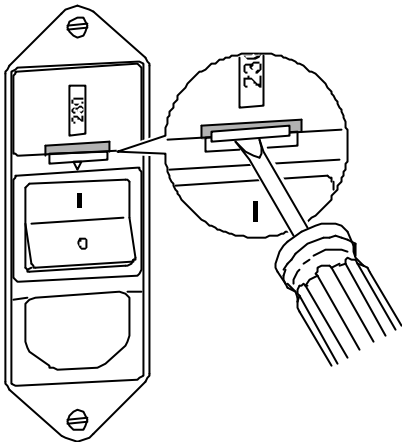


Figure 10

The type of fuse depends on the mains voltage (see the technical specifications in para. 3.3).

A single-phase earthed wall socket is sufficient for electrical connection. There are several mains cables. Select the proper mains cable used in your country.

5.6.2 Replacing the fuses

Attention:
Always replace the fuse by a new one of the same type and rating.

1. Power down the machine.
2. Remove the mains cable from the wall socket and from the mains voltage input of the machine.
3. Use a small screw driver to remove the fuse holder from the mains voltage input as indicated in Figure 10.
4. Remove the old fuses from the fuse holder.
5. Put the fuse holder with two new fuses back into the mains voltage input.

5.7 Moving the control panel

The control panel can be installed in two different places, depending on your own preference and/or depending on whether the machine is installed vertically or horizontally. When supplied, the machine is ready for vertical installation.

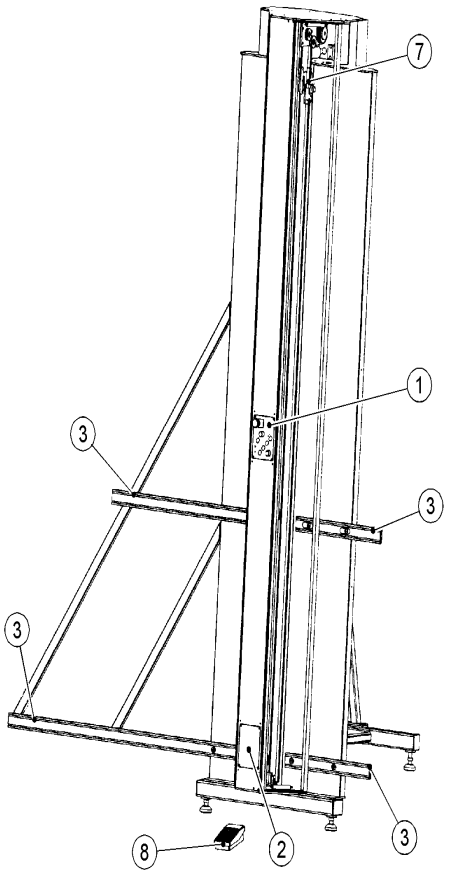


Figure 11

The control panel is moved as follows:

- Lower the clamping bar, using the foot pedal. Switch the machine off at once when the clamping bar touches the table, using the main switch.
- Remove the machine plug from the wall socket.

Warning:
Make sure that the machine is de-energised!

- Open the guard and cut both tie-wraps holding the ribbon cable just over the control panel (1).
- Remove the screws at the corners of the control panel (1).
- Remove the connector from the PCB at the back of the control panel.
- Remove the dummy panel (2) from the alternative position.
- Feed the ribbon cable through the hole of the new position (2) and guide it into the rim of the cover.
- Place the connector of the ribbon cable on the control panel.
- Place the control panel in the new position and screw it down at the corners with 4 screws.
- Place the dummy panel at the position from which the control panel was taken and screw it down at the corners with 4 screws.
- Secure the ribbon cable with tie-wraps.
- Close the guard and reconnect the mains voltage.

5.8 Fine adjustment of clamping force and top bar lifting height

The minimum clamping force and the back travel of the clamping bar can be adjusted by the potentiometers, which are located in the control cabinet (see Figure 12). It may be necessary to readjust the clamping force if the machine is used vertically.

5.8.1 Minimum clamping force

The minimum clamping force can be adjusted by the upper potentiometer (A). The potentiometer can be adjusted by inserting a screw driver through the hole.

The adjustment procedure is as follows:

1. Turn the pressure setting knob on the control panel back to 0 (zero).
2. Now adjust the potentiometer until the motor just moves the bar throughout its travel.
3. Keep checking this setting by operating the foot pedal.
   Clockwise => Decrease clamping force
   Anti-Clockwise => Increase clamping force

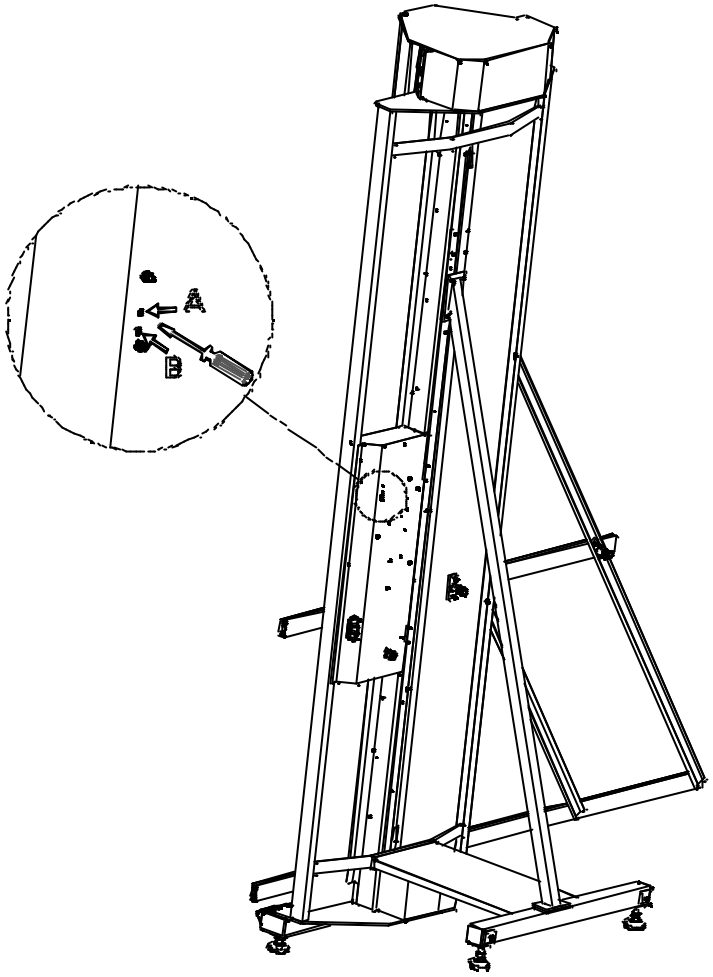


Figure 12

5.8.2 Top bar lifting height

The distance covered by the bar when the foot pedal is depressed for about 1 second can be adjusted by the lower potentiometer (B) in the control cabinet (see paragraph 3.3). This potentiometer can be adjusted by inserting a screw driver straight through hole (B).

Adjust the potentiometer until the lifting height is acceptable.

The potentiometer has been factory-set to an average value.
Clockwise => Clamping bar moves back less far
Anti-Clockwise => Clamping bar moves back further

6. OPERATION

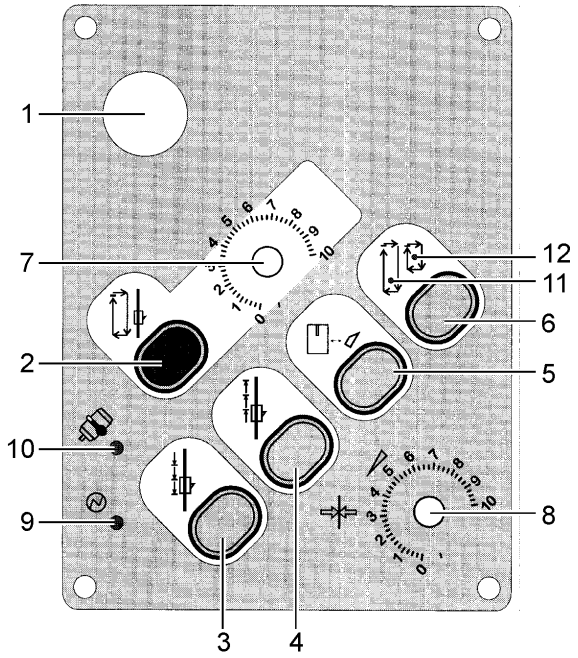


Figure 13

6.1 Control panel

Figure 13 shows the layout of the control panel, with the following annotations:

Push buttons:

1. Emergency stop button
2. Start button
3. Memory status: blade carrier lower
4. Memory status: blade carrier higher
5. Pressing once: blade carriage moves to take-out position
   Pressing twice: blade carriage back to starting position
6. Selecting the end of the cutting movement (lower or upper supporting section)

Turning knobs:

7. Cutting speed
8. Clamping force

LED displays:

9. Mains voltage on/off
10. Motor overloaded
11. Lower supporting section is end of cutting movement
12. Upper supporting section is end of cutting movement

6.2 Foot pedal

The foot pedal is used to clamp a panel in the machine without cutting it immediately. In this way the panel with picture can be properly positioned. The clamping force can be checked at the same time.

Trimmings of the panel are clamped so as to check that this clamping force is not too large. The clamping force is then set with the turning knob (Figure 13 point 8).

When the foot pedal is briefly depressed, the machine itself will check the panel. The clamping bar is then slightly released to allow proper positioning of the panel. This thickness is memorised until the foot pedal is depressed again.

When a panel has been clamped with the foot pedal, the "start" button may be pressed. The cutting cycle will control the clamping operation.

6.3 Safety cover

It is not possible for the fingers to reach the vicinity of the moving blade when the cover is closed.

Is the cover is opened only a little, all movements of the blade carriage stop immediately. Any cutting cycle already started is merely halted.

The cutting process continues after the cover has been closed and the starting button has been pressed again.

6.4 Locating strip

This is a thin metal strip mounted onto the top bar. This locating strip indicates where the cut of the blade will be made after the bar is clamped. This is e.g. useful for trimming excess foam material around a photograph glued onto a foam panel.
The locating strip and cutting line are spaced 1 mm apart.

6.5 Supporting sections

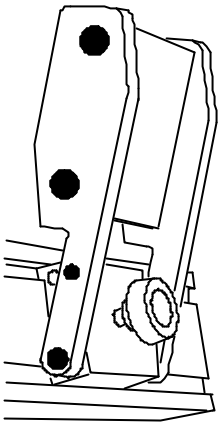
One left-hand and one right-hand supporting section are fitted to the MDC. They serve as a support for the materials to be cut and are also marked with a cm and inch calibration. The supporting sections are mounted directly onto the table top.

The end of the cutting movement (lower or upper supporting section) can be set on the control panel with knob 6 (Figure 13).
If it is set on the upper supporting section, the cutting movement will stop at this supporting section.

If it is set on the lower supporting section for cutting large panels, the upper supporting sections must be removed. See para 5.5 on how to remove the upper supporting sections.

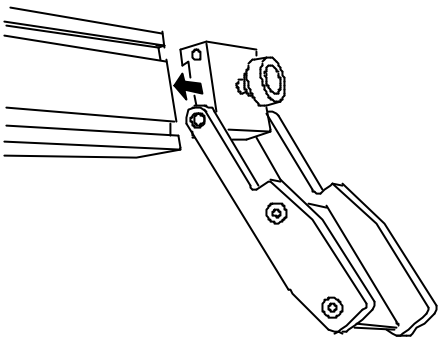
6.6 Stop

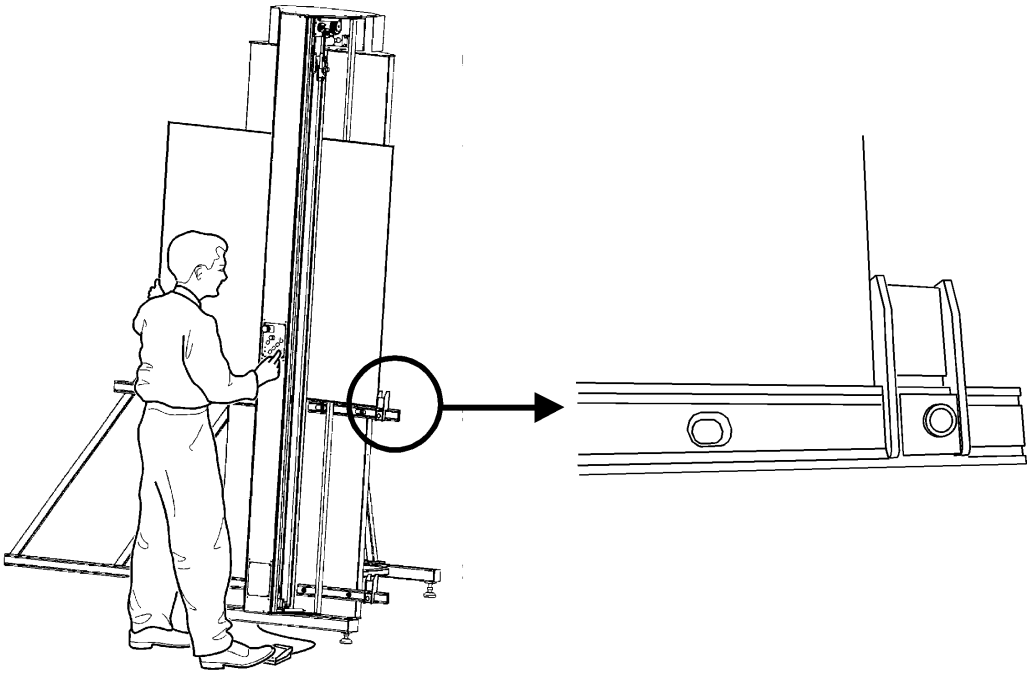
The stop and the graduation scale on the supporting sections are used to set the cutting size.
The stop can be folded up to allow easy removal of the panel.



The stop is placed on the scale to set a fixed distance.

- To release the fixing block, turn the knob in anti-clockwise direction.
- From the right-hand side, slide the stop with fixing block onto the scale.





- Shift the stop to the desired position and fix it by turning the knob in clockwise direction.

6.7 Blade carriage and holders

There are two different types of holders: blade holders and groove tool holders.

See para 6.8. for a survey of materials that can be cut and the appropriate holders.

6.7.1 Inserting and removing holders:

The holders are secured with black serrated knobs.
DO NOT OVERTIGHTEN THESE KNOBS!

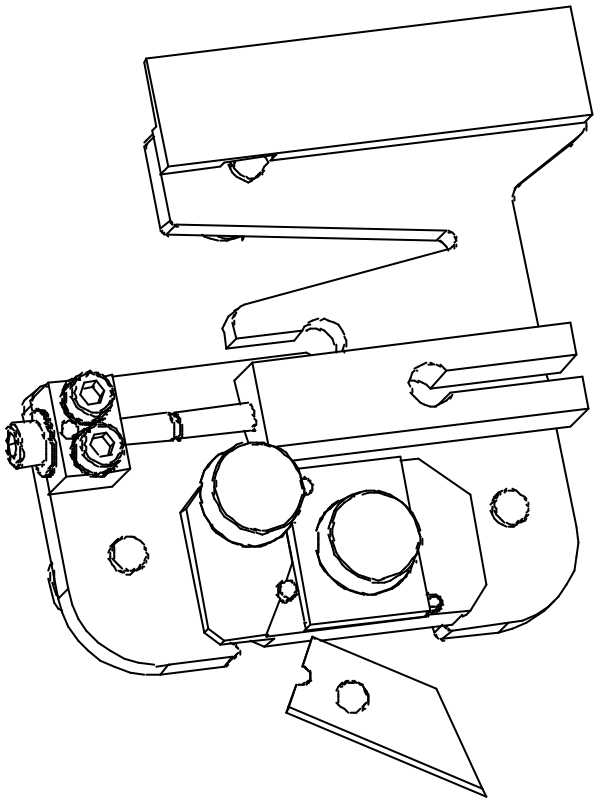


Figure 14

Warning
Care must be taken when handling the blade and blade holders! The blades are very sharp.

- First remove any dust from the recess for the holder in the blade carriage!
- Insert the holder in the recess and hand-tighten the black serrated knob.

6.7.2 Changing the blades in the blade holder

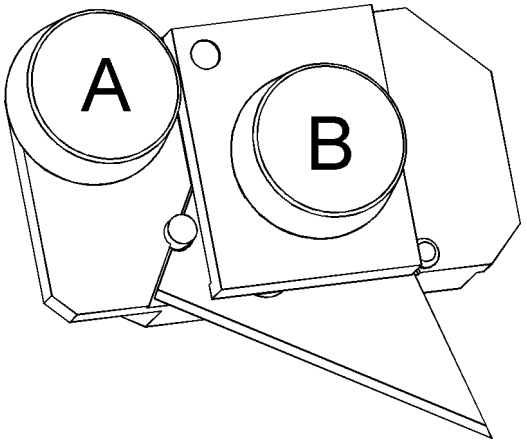


Figure 15

Warning:
Care must be taken when handling the blades!

Attention:

The careless insertion of this blade results in the blade being damaged immediately upon cutting!

- Remove the blade holder from the machine (see para. 6.7.1) (knob A).
- Now give the serrated knob (B) a single turn so that the blade can be removed easily.(B).

Attention:

Ensure that the hole in the blade is located over the small pin when inserting the new blade.

- Slightly lift the clamping plate and slide the blade with the recess against the pin and with the bevelled side of the blade against the other stop.
- Hand-tighten the serrated knob (B).
- Put the holder back in the blade carriage (knob A).

6.7.3 Replacing the groove tool

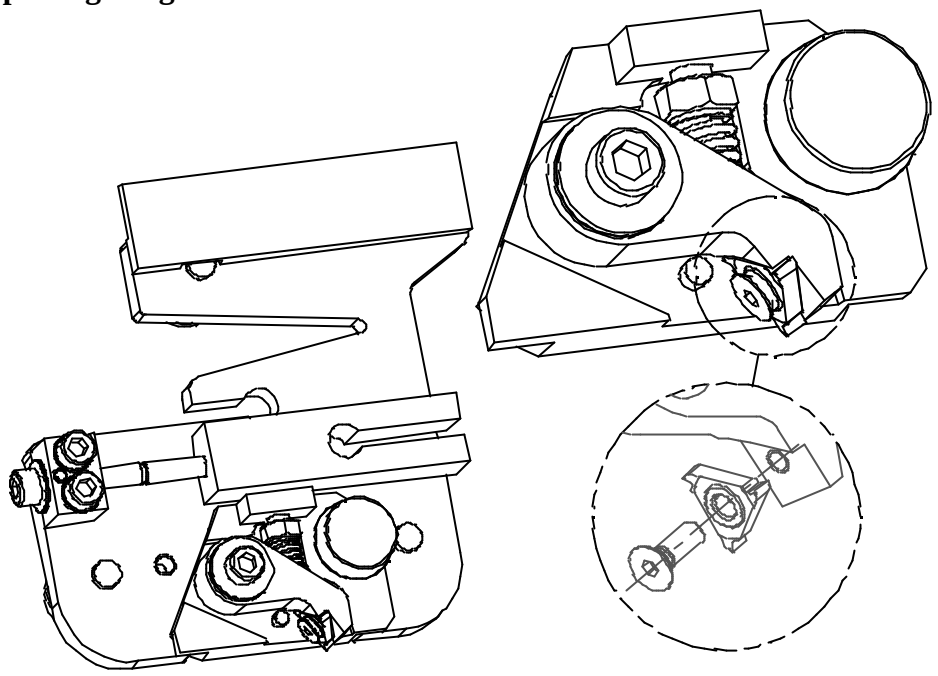


Figure 16

- Remove the groove tool holder from the machine (see para. 6.7.1).
- Loosen the socket head screw (see Figure 16) and remove the tool plate from the holder.
- Give the tool plate a turn or insert a new tool plate (the tool plate has 3 cutting sides).
- Retighten the socket head screw.
- Put the groove tool holder back in the blade carriage.

6.8 Choice of material

The following materials may be processed with the MDC:

Warning:
Cutting materials other than those listed below may result in damage to the machine. Any damage by using the machine inappropriately may cause injury.

MATERIAL	THICKNESS	PROCESS	Max. cutting speed
Cardboard	up to 4 mm inclusive	cutting	Max. speed
Polystyrene PS	up to 3 mm inclusive	cutting/grooving	Max. 6*
Rigid PVC	up to 3 mm inclusive	grooving	Max. speed
Acrylate (PMMA)	up to 3 mm inclusive	grooving	Max. speed
Foamed PVC **	up to 10 mm inclusive	sectioning	Max. 2*
Foam board	up to 13 inclusive	cutting	Max. speed
Pop-up graphics	2 sheets simultaneously	cutting	Max. speed
Printer output	max. 10 sheets simultaneously	cutting	Max. speed

* These speeds can only be achieved when the blade has run in.

** Low density quality (Just the foamed PVC types matching the following types: E.12700 (2 to 8 mm inclusive) and E.12500 (10 mm).

6.9 "Running in" of the blades

It is essential to 'run in' the section blade for PS and foamed PVC (or similar materials). It is impossible to cut a board in half with a blade that has not 'run in': the blade will seize and/or snap.

Running in of a blade is done as follows:

- A strip of approximately 30 mm must be cut from a board after the 'fresh' blade has been inserted into the blade holder.
- The cutting speed must be reduced to nearly zero before the blade touches the board.
- The cutting speed should then be increased slowly to speed 1, until the blade slowly but surely starts to cut through the material.
- The length of this cut should be at least one metre.
- The blade is then fit for normal use.

There is a great risk that parts will break off the blade during cutting if the blade has not run in, or not properly so. It is useful to keep a board intended especially for running in at hand for this purpose.

6.10 Cutting hard materials

Cutting of other hard materials must be tested experimentally, but will usually lead to the blade snapping.

Attention:
When the blade has run in, the minimum length of hard material to be cut must not be less than 4 mm.

<u>The cutting edge of a foamed PVC board is slightly undulating!</u>

7. MAINTENANCE

7.1 General

The work listed here should only be carried out by the person in your company who is responsible for this machine, or by qualified personnel in your technical service department.

Warning:
Remove the blade holder with blade before you start any maintenance to prevent cutting injuries.

7.2 Cleaning

Warning:
Before starting the work, remove the plug from the wall socket, to ensure that the machine is de-energised.

Attention:
Only clean with a damp cloth.

Prevent water from coming into contact with the machine panels as these are not sealed. Water might enter the electrical circuits, which might cause damage to the equipment and, in extreme cases, to injury when the machine is switched on.

Clean the outer panels of the machine with a damp cloth.
If required, you may use a domestic cleansing agent to remove nasty stains.

7.3 Removal of trimmings

Warning:
Before starting the work, remove the plug from the wall socket, to ensure that the machine is de-energised.

The trimmings will drop off by themselves. You should nevertheless check periodically to ensure that no trimmings remain behind or are stuck. Trimmings may be blast away with the aid of compressed air, as in the case of the horizontally mounted machine.

7.4 Replacing a fuse

Warning:
Before you start the work, remove the plug from the wall socket, to ensure that the machine is de-energised.

The type of fuse depends on the mains voltage. Check which voltage has been set for the machine and select the correct type of fuse (230 V - 1 A or 115 V - 2 A).

Warning:
Always replace the fuse by a new one of the same type and rating.
Do not replace the fuse if it blows again. Consult your local supplier.

Replace the fuse, following the procedure described in para. **Error! Reference source not found.**.

7.5 Maintenance of straightening guide

Warning:
Before you start the work, remove the plug from the wall socket, to ensure that the machine is de-energised.

The straightening guide of the MDC must be serviced periodically (at least once a month in the case of average use).
The “straightening guide” is the linkage on which the wheels of the blade carriage run.
The linkage and treads of the wheels must be cleaned with a cloth dampened with some white spirit.
After this, apply a little Molykote to the guide shafts.

7.6 Checking the support sections

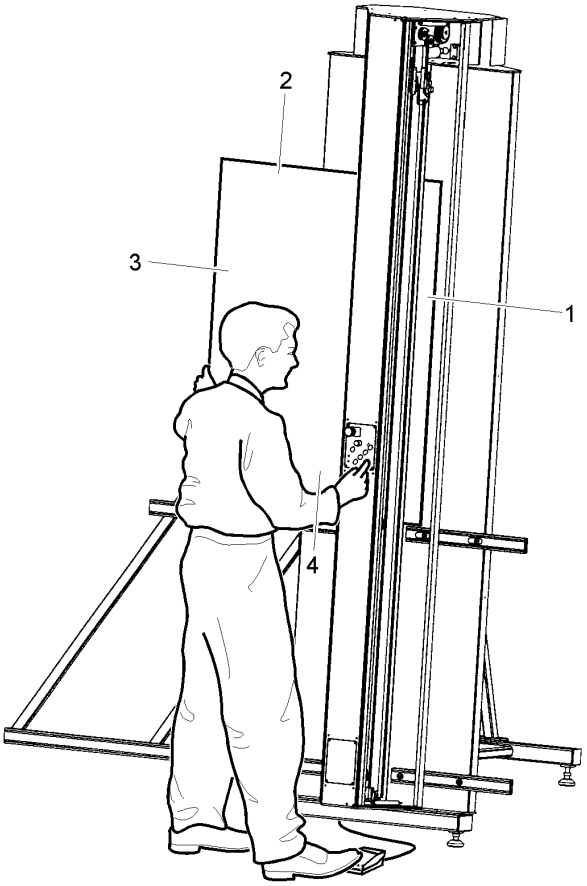


Figure 17

The following procedure is to be followed for the bottom left supporting section.

- Take a foam board sized at least 1 by 1 metre.
- Cut off one side (1).
- Turn the board to the right until the cut (1) is located at the bottom.
- Cut off side (2).
- Turn the board to the right again.
- Cut off side (3).
- Turn the board to the right again.
- Cut off side (4).
- Turn the board to the right for the last time.
- Check that side (1) is parallel with the metal locating strip.

If not, adjust the supporting section, following the procedure set out in para. 7.7 until side (1) is parallel with the metal locating strip.
Repeat this procedure for checking purposes and fasten the screws properly.

7.7 Adjusting the support sections

Both lower supporting sections can be adjusted by eccentrics.
When readjusting the long supporting section (bottom left), also slightly loosen the fastening points of the supporting section brace to the table to allow some shifting.

First adjust both lower supporting sections.

When both lower supporting sections have been adjusted properly, you can adjust the top left supporting section. This is done by two adjustable 'quick-acting couplings'. Use only the ‘quick-acting coupling’ on the brace to square.

Eccentrics:
Slightly loosen the socket head screws of the eccentrics prior to adjustment so that these eccentrics can be turned by a screw driver (see Figure 18).

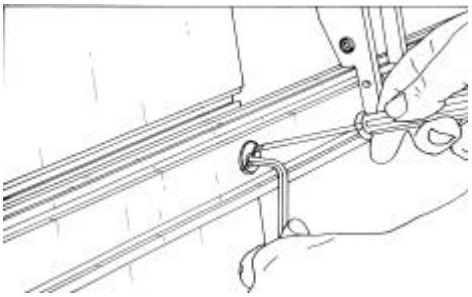


Figure 18

Adjusting the ‘quick-acting couplings’
The top left supporting section is fastened by 'quick-acting couplings'.
Slightly release the nuts at the back enabling the connection to shift.
Square the supporting section and retighten the nuts after checking the supporting section for squareness.

Summarising:
- Align this supporting section with the fixed stop plate (below the cutting bar)
- Square the bottom left supporting section
- Align the bottom right supporting section, starting from the left-hand supporting section
- Align the top left supporting section, starting from the right-hand supporting section, which has been factory-set.

7.8 Failures

Problem	The clamping bar does not function.
Cause	Cover is open or clamping pressure was set to 0.
Remedy	Close the cover. Check the clamping pressure setting on the control panel.

Problem	The clamping bar functions after "start", but the cutting process does not begin.
Cause	The speed was set to 0.
Remedy	Set the correct speed.

Problem	The machine does not respond to any command..
Cause	The emergency stop button was pressed.
Remedy	Pull the emergency stop button out again. Press the "blade change" button". This button is also the "reset" button.

Problem	The machine does not respond to the "start" command.
Cause	The cover is open, the emergency stop button was pressed, or the "Overload" indicator lamp lights up.
Remedy	Trace the cause and solve the problem. Turn the main switch off and on again.

Problem	The blade stops during the cutting operation and the "Overload" indicator lamp lights up.
Cause	The material to be cut is too hard.
Remedy	Reset the machine, using the main switch. The machine can be operated again after about 10 seconds. **ATTENTION: THE BLADE MAY SNAP!** If necessary, remove the blade or blade parts from the material.
Note	Always remove trimmings, these may lock the blade carriage. Is the cutting speed set correctly? Are the blades sharp and set correctly?

Problem	The machine does not cut at square angles.
Cause	The supporting sections are not at square angles.
Remedy	Check the supporting sections for squareness, see the chapter on "Maintenance1.

7.9 Assistance

Should you not be able to resolve any faults in the machine yourself, despite the information in this user manual, please consult your supplier. He will ensure that trained staff resolve any failure. A Technical Service Manual is available to trained staff.

Warning:
Remove the plug from the wall socket in the event of a machine failure!

8. Addresses

Please contact your nearest sales office for further information on Hunt Graphics products.

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